

MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT
TITLE V OPERATING PERMIT
EVALUATION REPORT

24580 Silver Cloud Court
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Dated: August 3, 1998 and Modified October 21, 1998

APPLICATION RECEIVED FROM:

RMC Lonestar - Davenport Plant
700 Highway One
Davenport, CA 95017

PLANT SITE LOCATION:

700 Highway One
Davenport, CA 95017

APPLICATION PROCESSED BY:

Mike Sewell, Air Quality Engineer

Nature of Business: Portland Cement Manufacturing

SIC Codes: 1422 - Crushed and Broken Limestone
3241 - Portland Cement Manufacturing

RESPONSIBLE OFFICIAL:

Name: Mr. Satish Sheth
Title: Vice President, Cement Operations
Phone: (408) 429-7200

FACILITY CONTACT PERSON:

Name: Mr. Duane Cannon
Title: Environmental Coordinator
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FACILITY DESCRIPTION

RMC Lonestar operates a portland cement manufacturing facility in Davenport, California. This facility has been in operation since 1906. The facility utilizes a Preheater/Precalciner Type Cement Kiln.

Limestone and shale are quarried at the facility location. These quarried materials along with other purchased raw materials are ground, dried and supplied in the appropriate chemical proportions to the preheater/precalciner tower and then to the rotary kiln to produce clinker. The clinker is cooled, then finish ground with additives in accordance with the final product's desired properties. The finished product is sacked or stored in silos prior to bulk shipment by truck or railcar.

The RMC Lonestar Davenport Plant is considered a federal Major Source and subject to the Title V permitting program due to the potential to emit Oxides of Nitrogen (NOx), Oxides of Sulfur (SOx), Carbon Monoxide (CO), and Particulate Matter less than 10 microns in diameter (PM10).

EQUIPMENT DESCRIPTION

PORTLAND CEMENT MANUFACTURING FACILITY CONSISTING OF:

1. Quarry Operations

Mobile Rotary Drill Rigs, With Filter/Clone Dust Collection Systems.

Mobile Surface Mining Equipment, Mined Material To Primary Crushing & Screening.

Primary Crushing & Screening, Vented To Baghouse Dust Collectors, Sized Material To Quarry Silos And Fines To Fines Stockpile.

Quarry Silos, Discharging Materials To Raw Materials Stockpiles Via Overland Conveyor System, Transfer Points Equipped With Baghouse Dust Collectors.

2. Raw Materials Processing Circuit

Purchased Raw Materials Unloading And Storage, Three Sided Storage Enclosure, Enclosed Drive Over Hopper With Materials Transferred Via Belt Conveyor To Enclosed Storage Or To Storage Bins, All Storage Bins Vented To Baghouse Dust Collectors.

Raw Materials Retrieval, Raw Materials Transferred To Raw Materials Surge Bin From Stockpiles And Storage Via Feeders And Raw Materials Feed Belt, Emission Points Vented To Baghouse Dust Collectors.

Raw Materials Mill, Raw Materials Transferred From Raw Materials Surge Bin To Roller Mill. Preheater Any By-Pass Gases Combined And Vented Through Mill For Drying And Sweep Air. Mill Equipped With Double Cone Type Classifier Discharging To Main Electrostatic Precipitator (ESP).

Mill Booster Air Heater, 25 MMBTU/Hr Heat Input, Fired On Natural Gas Or On

#2 Fuel Oil.

Homo Silos, Pneumatic Mixing Chamber Silo Systems, Receiving Raw Materials From the Main ESP Via Screw Conveyors, Drag Conveyors, Bucket Elevators, And Homo Feed Elevator, Emission Points Vented To Baghouse Dust Collectors.

Kiln Feed Surge Bin, Receiving Material From Homo Silos Via Airslides And Bucket Elevators, Emission Points Vented To Baghouse Dust Collectors.

Kiln Feed, Receiving Material From Kiln Feed Surge Bin Via Airslides And Discharging Material Via Airslide Into The Riser Of Stage II Suspension Preheater; Or The Iron Ore May Be Introduced Directly Into The Precalciner Riser Section Via Conveyors And Double Tipping Valve, Emission Points Vented To Baghouse Dust Collectors.

3. Coal Circuit

Coal Receiving And Storage, Enclosed 50 Ton Drive Over Railcar Receiving Hopper Transferring Coal Via Belt Feeder, Belt Conveyor, And Stacker To Coal Storage Pile. Emissions Controlled By Chemical Dust Suppression System With Spraybars At Each Transfer And Loadout Point, And By Baghouse Dust Collector With Pickup Points At Belt Feeder And Belt Conveyor Transfer Points. The Receiving System Is Also Used For Railcar Delivery Of Iron Ore, Gypsum, And Other Process Raw Materials.

Coal Reclaim, Transferring Coal To Coal Bin From Coal Storage Pile Via Underpile Vibrating Feeders, Pocket Belt Conveyor, Screen And Coal Belt. Emissions Controlled From Pocket Belt Transfer, Screen, Coal Belt And Coal Bin By Baghouse Dust Collector.

Coal Mill, Discharge From Coal Bin Via Weigh Feeder To CE Raymond Triple Gate Feeder Bowl Mill. Coal Mill Hot Air Obtained From Clinker Cooler Drop Out Box, With Two Ambient Air Bleed In Dampers For Temperature Control, For Coal Drying And Conveying Of Pulverized Coal Through The Mill. Mill Discharge To High Efficiency Cyclone Collector With Separated Material To Pulverized Coal Bin And Air Stream To Coal Mill Baghouse Dust Collector.

Coal Feed, Coal Provided To Precalciner And Kiln From Pulverized Coal Bin Via Feed Screws And Feed Pumps Which Are Vented To Baghouse Dust Collectors.

4. Alkaline Slurry Preparation System, 150 Ton Lime Storage Silo Equipped For Pneumatic Delivery And Vented To Baghouse Dust Collector, Providing Lime Via Ball Mill And Vibrating Screen To 4000 Gallon Alkaline Slurry Tank. Alkaline Slurry Provided To Main Conditioning Tower And To Roller Mill For SOx Control.

5. Cement Clinkering Process

Suspension Preheater With Precalciner:

Two First Stage Cyclones In Parallel, Each 15' 6" Diameter.

Second, Third, And Forth Stage Cyclones In Series, Each 22' 7" Diameter.

Precalciner, 41' High, 18' Diameter Cylindrical Section. Coal Introduced By Pneumatic Feed Pump, 250 MMBTU/Hr Maximum Heat Input. Number 2 Fuel Oil Standby. Gases Discharged From Rotary Kiln Vented Through Precalciner Providing Partial Combustion Air And Kiln Feed/Coal Mixing. Additional Combustion Air From Clinker

Cooler.

Hauck 21 MMBTU/Hr Number 2 Oil Fired Precalciner Start-Up Burner.

Weishaupt 7.4 MMBTU/Hr Number 2 Oil Fired Precalciner Pilot Burner.

Conditioning Tower Between Discharge From First Stage Cyclones and Raw Mill Equipped With Alkaline Slurry Injection System For SO₂ Control.

Preheater Fan With 1600 Hp Motor Located Between Conditioning Tower And Raw Mill Prior To Combination With Bypass Duct.

Rotary Kiln:

13' Diameter By 183' 8" Long Rotary Kiln.

6" I.D. Straight Burner Pipe Used To Introduce Coal, 150 MMBTU/Hr Maximum Heat Input. Number 2 Fuel Oil Standby. Secondary Combustion Air From Clinker Cooler.

80 MMBTU/Hr Number 2 Oil Fired Kiln Start-Up Burner

Clinker Cooler:

Reciprocating Grate Cooler, With Eight Cooler Fans (Seven Online And One Backup).

Closed Loop Cooler Air Heat Exchange Circuit With Double Pass Air To Air Heat Exchanger, And Ten Module Gravel Bed Filter With Two 30 Hp Backflush Fans, 900 Hp Cooler Recirculation Fan With Bleed In Air Damper, And Discharging To The Intake Of Five Cooler Fans. Two Cooler Fans Have Atmospheric Intake Which Provides Secondary And Tertiary Combustion Air And Coal Mill Sweep Air To Closed Loop Cooler Air Heat Exchange Circuit.

Material Removed By Gravel Bed Filter And Heat Exchanger Drop Out Are Transferred To Clinker Circuit.

Clinker Breaker, 36" x 126" Hammermill With 50 Hp Motor.

12' x 80' Clinker Cooler Drag Conveyor.

Preheater Bypass Circuit:

Bypass Opening In Rotary Kiln Riser Duct Before Precalciner To Divert Kiln Gases To The Bypass Circuit For The Purpose Of Removing Particulate To Control Clinker Alkali Content.

150 Hp Quench Air Fan.

Mixing Chamber.

Bypass Conditioning Tower With Water Spray.

Environmental Elements Corporation Electrostatic Precipitator, Single Chamber With 34 Gas Passages On 10" Centers And 5 Fields, Each 9' In Length And 36' Field Height. Collected Material To Waste Dust Circuit.

900 Hp Bypass Precipitator I.D. Fan Discharging To Combine With Preheater

Gases Downstream Of Preheater Fan And Before Raw Mill.

Main Electrostatic Precipitator (ESP)

Combined Preheater And Bypass Gases Passed Through Raw Mill Or Bypassing Raw Mill To Main ESP.

Environmental Elements Corporation Electrostatic Precipitator, Single Chamber With 58 Gas Passages On 10" Centers And 5 Fields, Each 9' In Length And 36' Field Height. Collected Material To Homo Silos.

3100 Hp Precipitator I.D. Fan With Discharge To 200 Foot Exhaust Stack.

Continuous Emission Monitoring System:

Lear Siegler Model RM-41 Transmissometer, Or Equivalent.

Lear Siegler Model SM-810, Measuring SO_x And NO_x, Or Equivalent.

Teledyne Hastings Model AFI-6KL Pitot Tube Flow Meter, Or Equivalent.

6. Clinker Circuit

Fringe Clinker Bin, 200 Ton, Receiving Clinker From Clinker Cooler Via Vibrating Feeder, Bucket Elevator, And Drag Conveyor. All Emission Points Vented To Baghouse Dust Collectors.

Clinker Storage Building, Receiving Clinker From Fringe Clinker Bin Via Conveyors And Bucket Elevators. All Emission Points Vented To Baghouse Dust Collectors.

Clinker Reclaim, Retrieval Of Clinker From Clinker Storage Building Via Underfloor Vibrating Feeders, Conveyors And Bucket Elevators. All Emission Points Vented To Baghouse Dust Collectors.

Two Clinker Storage Bins, 450 Ton Each, Receiving Clinker From Clinker Reclaim. Clinker Bins Vented To Baghouse Dust Collectors.

7. Waste Dust Circuit

Dust Bin, 50 Ton, Receiving Waste Dust From The Bypass ESP And The Bypass Conditioning Tower. Dust Bin Vented To Baghouse Dust Collector.

Waste Dust Disposal, Discharge From Dust Bin To Truck Load Out Spout Via Screw Conveyor Or To Portable Storage Tanks Or To Pug Mill For Combination With Water Prior To Pumping To Slurry Pond. All Emission Points Vented To Baghouse Dust Collectors.

8. Cement Circuit

Gypsum/Limestone And Other Blending Materials Unloading And Storage, Materials Transferred To Gypsum/Limestone And Synthetic Gypsum Storage Bins Via Truck Unloading Hopper, Pocket Belt Conveyor And Bucket Elevator. All Emission Points Vented To Baghouse Dust Collectors.

Finish Mills, Two Aerofall Mills Limited Cement Grinding Ball Mills, Receiving Clinker From Clinker Storage Bins And Gypsum And/Or Limestone And/Or Other Blending Materials From Gypsum/Limestone/Synthetic Gypsum Storage Bins Via Separate Feeders And Finish Mill Feed Conveyor, Discharging To Surge Bin Via Air Separator And Cement Cooler Or Via

Optional Cement Cooler Bypass Circuit Or Via Air Separator Bypass Circuit. Surge Bin Feeding Pneumatic Pump To Fringe Bin Or To Bulk Cement Silos. All Emission Points Vented To Baghouse Dust Collectors.

Bulk Cement Silos, Ten 80,300 Ft³ Capacity Silos, Receiving Cement From The Finish Mills Via Pneumatic Pumps. All Emission Points Vented To Baghouse Dust Collectors.

Bulk Loadout, Cement Transferred Pneumatically Or Via Bucket Elevators From Bulk Cement Silos To Eight Bulk Storage Tanks Prior To Truck/Railcar Loadout. All Emission Points Vented To Baghouse Dust Collectors.

Packaging Lines, Cement Pneumatically Transferred From Bulk Cement Silos To Two Packaging Line Storage Tanks, Discharge From Packaging Line Storage Tanks Via Airslides To Screens Feeding Supply And Surge Bins For Two St. Regis Model 150 FC 4 Spout Valve Bag Packers. Sacked Cement To Palletizing Area Via Conveying Line Equipped With Sack Flattener And Sack Cleaning Areas. All Emission Points Vented To Baghouse Dust Collectors.

9. Ancillary Equipment:

Abrasive Blasting Equipment.

Gasoline Dispensing Facility.

Laboratory Fume Hoods.

APPLICABLE FEDERAL REQUIREMENTS

40 CFR Part 52 - Prevention of Significant Deterioration of Air Quality (PSD)

The facility has undergone PSD review due to the modernization of the facility in 1979. The original PSD permit was issued by EPA in 1978 for the modernization of the facility. However, after the facility was constructed according to the plans and specifications submitted to EPA, it became apparent that the estimates of certain emissions in the application for the modernized facility were erroneous, and that the facility was unable to achieve steady state compliance with the emission limits for NO_x and SO₂ stated in the permit. Therefore, the facility applied for a modification of the 1978 PSD permit in an August 19, 1986 submittal to EPA. EPA acted on this modification request and issued a revised PSD permit on July 31, 1991. The conditions contained on the July 31, 1991 PSD permit will be included on the Title V permit.

Rule 207 - Review of New or Modified Sources

This facility started production in 1906. A modernization of the facility occurred in 1979, subjecting the facility to undergo significant NSR permitting. The conditions contained on these New Source Review (NSR) permits will be included on the Title V permit.

Rule 214 - Breakdown Condition

This is the implementing regulation in which the District has established the criteria for reporting breakdowns. The requirements imposed by this rule will be included on this permit.

Rule 218 - Title V: Federal Operating Permits

This is the implementing regulation by which the District issues the federal Operating Permits. All requirements imposed by this rule will be included on the Title V permit.

Rule 308 - Title V: Federal Operating Permit Fees

This is the District's fee rule for Title V. Appropriate conditions will be included on the Title V permit to ensure compliance with the fee provisions contained in this rule.

Rule 400 - Visible Emissions

This rule is applicable to the emissions from the facility.

The main ESP and all sources exhausting through baghouse dust collectors are assumed to be in compliance with the requirements of this rule. This is based upon the efficiency of properly designed control equipment and the issuance of the local District permits. Prior to permit issuance, District staff verified that the equipment was properly designed and in compliance with the opacity requirement of this rule. In addition, the annual compliance inspections for all permit units at the facility have shown the facility to be in compliance with the requirements of this rule and the data recorded by the transmissometer has shown the main stack (main ESP) exhaust stream to be in compliance.

Appropriate conditions will be included on the permit to ensure compliance with this rule.

Rule 403 - Particulate Matter

The 0.15 grains per dry cubic foot emission standard and the process weight standard are applicable to all point sources at the facility.

The main ESP and all sources exhausting through baghouse dust collectors are assumed to be in compliance with these rule requirements based upon the efficiency of a properly designed baghouse dust collectors and the issuance of the local District permits. Prior to permit issuance, District staff verified that the equipment was properly designed and in compliance with the grain loading and process weight requirements of this rule. In addition, source testing has show compliance with the rule requirements. Based upon the existing District permits, the fact that the process has not changed (no increase in grain loading to the EPA or the baghouse dust collectors) and the source testing data, this permit will only require particulate sampling of a particular baghouse dust collector and ESP exhaust upon the observation of visual emissions from the baghouse dust collector or ESP except during periods of process breakdowns or upsets as allowed for and reported under District Rule 214.

Appropriate conditions will be included on the permit to ensure compliance with the requirements of this rule.

Rule 404 - Sulfur Compounds and Nitrogen Oxides

EPA in a letter dated April 8, 1996 states that Rule 404 adopted on September 15, 1993 and submitted to the SIP on November 18, 1993 is more stringent than the applicable SIP rule. However, the District proposes to utilize the flexibility afforded in Section II. B. (Development Of Applications And Permits For Outdated SIP Requirements) of the March 6, 1996 White Paper. The White Paper authorizes permitting authorities to base permit applications on State and local rules that have been submitted for SIP approval, rather than on the potentially obsolete approved SIP provisions that they would replace. Such reliance on pending State and local rules is proper when the permitting authority has concluded that the pending rule will probably be approved.

This use of the flexibility in the White Paper is due to the fact that the facility can not comply with the 140 pound per hour NOx limit contained in the September 15, 1993 version of this rule even though the facility was

modernized using the latest BACT. The District became aware of the conflict between the prohibitory rule limits and the NSR permit (BACT) limits upon initial discussions of the Title V permitting process with the facility. Once this SIP/NSR permit conflict was discovered, the District revised Rule 404 to include an exemption from the emission limits contained in Rule 404 for any source subject to a BACT emission limit imposed by the District's NSR rule. Rule 404 was revised on October 16, 1996 and transmitted to EPA on October 23, 1996 for inclusion in the SIP.

The facility is in compliance (as shown below) with the SO₂ provisions of the 9/15/93 rule even though this would not be an applicable requirement based upon the provisions of the White Paper.

Compliance with the 0.2% by volume (2000 ppmv) limit for SO₂ for external combustion in the precalciner and kiln (same emission point, through main stack) is assured due to an hourly limit of 250 lbs SO₂/hr from the NSR permit. 250 lbs SO₂/hr equates to 150 ppmv $[(250 \text{ lbs SO}_2) / ((64.1 \text{ lbmole SO}_2) * (164,360 \text{ SDCFM}) * (1.581\text{E-}7)) = 5.5 \text{ ppmv}] / ((64.1 \text{ lbmole SO}_2) * ((379 \text{ Ft}^3 \text{ Air}) / (\text{lbmole air})) / ((8,710 \text{ SDCFM}) * (60 \text{ M/Hr})) = 150 \text{ ppmv}]$. This value is well below the 2000 ppmv SO₂ allowed in this rule.

Compliance with the 0.2% by volume (2000 ppmv) limit for SO₂ for external combustion of fuel oil number 2 in the boiler is assured due to the following calculation based upon the AP-42 emission factor of 142s lbs SO₂/1000 gallons (s indicates the weight % of sulfur in the fuel) of number 2 fuel oil combusted (Table 1.3-2 dated 1/95), which equates to 0.518 lbs SO₂/MMBtu heat input based upon 0.5% sulfur content of the fuel as required by Rule 412. Utilizing this emission factor and the F factor from EPA method 19, the SO₂ concentration for external combustion of number 2 fuel oil would equate to 5.5 ppmv $[(0.518 \text{ lbs SO}_2/\text{MMBtu}) * ((\text{MM lbmoles air}) / (64.1 \text{ lbmole SO}_2)) * ((379 \text{ Ft}^3 \text{ Air}) / (\text{lbmole air})) / ((9,190 \text{ SDCFM}) * (60 \text{ M/Hr})) = 5.5 \text{ ppmv}]$ This value is well below the 2000 ppmv SO₂ allowed in this rule.

As of this date, EPA has not acted on this SIP submittal. Therefore, the District will proceed with the issuance of this permit based upon the October 16, 1996 rule requirements.

Based upon the requirements of the October 16, 1996 rule, no conditions from Rule 404 will be included on this permit. This is due to the fact that the facility is exempted from the requirements of this rule by the exemption contained in Section 1.3.2.

Rule 412 - Sulfur Content of Fuels

This rule which requires that the sulfur content of fuels combusted be less than 50 grains per 100 cubic feet for gaseous fuel and less than 0.5% by weight for liquid or solid fuel is applicable to this facility. Pipeline quality natural gas and standby LPG assures compliance with the 50 grain limit and the number 2 fuel oil is supplied to the facility with a sulfur content below 0.5%.

Appropriate conditions will be included on the permit to ensure compliance with the requirements of this rule.

Note that the combustion of coal in the kiln and precalciner is not subject to the requirements of this rule, as it is exempted from the requirements of Rule 412 by Rule 413 as discussed below.

Rule 413 - Removal of Sulfur Compounds

This rule provides that Rule 412 shall not apply where sulfur compounds are removed from combustion products, or a mixture of fuels are used such that

the emission of sulfur compounds to the atmosphere are no greater than the emission if the source was combusting a liquid or solid fuel with a sulfur content less than 0.5% by weight.

The alkaline nature of cement provides for direct absorption of SO₂ into the product. In addition, the source utilizes an alkaline slurry injection system to reduce SO₂ emissions from the combustion of coal in the kiln and precalciner, and from the release of pyritic forms of sulfur found in the shale.

The PSD permit includes a specific limit of 250 pounds of SO₂/hour. The emission limit that would be imposed by Rule 413 would be 0.713 lbs SO₂/MMBtu [(0.5 lb Sulfur/100 lbs fuel)(1.0 lb fuel/14,030 Btu)(106 BTU/MMBtu)(64 lbs SO₂/32 lbs Sulfur) = 0.713 lbs SO₂/MMBtu], which would equate to an emission level of 285.2 pounds per hour [(400 MMBtu/Hr)(0.713 lbs SO₂/MMBtu) = 285.2 lbs SO₂].

The 250 lbs SO₂/hour limit contained in the PSD permit is less than the 285.2 lbs SO₂/hour allowable in this Rule. Therefore, the requirements of Rule 413 are assured due to compliance with the PSD emission limit and will be subsumed under this permit condition.

Rule 418 - Transfer of Gasoline into Stationary Storage Containers

This rule requires that the gasoline storage tanks have submerged fill pipes and that Phase I Vapor recovery be utilized when filling the tanks. The rule also requires specific record keeping regarding the quantity of fuel delivered to the facility. The facility is in compliance with the requirements of this rule.

Appropriate conditions will be included on the permit to ensure compliance with the requirements of this rule.

Rule 426 - Applications of Nonarchitectural Coatings

This rule is applicable to all applications of Nonarchitectural coatings and limits the VOC content of these coatings. The facility is in compliance with the requirements of this rule.

An appropriate condition will be included on the permit to ensure compliance with the requirements of this rule.

Rule 433 - Organic Solvent Cleaning

This rule contains specific operational and record keeping requirements for solvent cleaning and degreasing operations.

Appropriate conditions will be included on the permit to ensure compliance with the provisions of this rule.

Rule 1002 - Transfer of Gasoline into Vehicle Fuel Tanks

This rule contains specific requirements for the installation and operation of ARB Certified Vapor Recover (phase II) systems on gasoline dispensing facilities.

The gasoline dispensing equipment was installed prior to the 11/23/94 adoption of Rule 1002, and therefore is not subject to the requirements of this rule.

40 CFR Part 60, Subpart A - New Source Performance Standards, General Provisions

The facility is subject to the requirements of 60.7 (notification and record keeping), 60.8 (performance tests), 60.11 (compliance with standards

and maintenance requirements), and 60.13 (monitoring requirements) because they are subject to 40 CFR Part 60, Subparts F and Y. These requirements were included on the PSD and NSR permits and will be include on this permit.

The District asserts that compliance with the conditions on the Title V permit shall be considered compliance with the monitoring, record keeping, and reporting requirements contained in 40 CFR Parts 60.7, 60.8, 60.11, and 60.13.

40 CFR Part 60, Subpart Dc - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
The steam boiler at this facility predates the requirements of this part. In addition, the steam boiler would not be subject to this part due to its heat input rating being less than 10 MMBtu/hour.

40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants
The facility is subject to the requirements of this part. These requirements were included on the PSD and NSR permits and will be included on this permit.

40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants
The facility is subject to the requirements of this part. These requirements were included on the PSD permit and will be included on this permit.

However, during the NSR permitting process the District established the more restrictive opacity standard (10%) from Subpart F for coal activities at the facility. Therefore, the 20% opacity standard from this part will be subsumed under the more restrictive 10% requirement from the NSR permit.

40 CFR Part 60, Subpart 000 - Standards of Performance for Nonmetallic Mineral Processing Plants
The nonmetallic mineral processing at this facility predates the requirements of this part and has not undergone reconstruction (as defined in this part) or modification (as defined in 40 CFR §60.2) after August 31, 1983. Therefore this facility is not subject to the requirements of this part.

40 CFR Part 61, Subpart M - National Emission Standard for Asbestos
This facility on an as needed basis is subject to Section 61.145 through 61.147 - standards for the demolition and renovation of asbestos. Historically, the facility has been in compliance with the requirements of these standards. An appropriate condition will be included on the permit to ensure compliance with these requirements.

40 CFR Part 63, Subpart LLL - National Emission Standard for Portland Cement Manufacturing Industry
EPA is in the process of developing this MACT standard. Upon promulgation, the District will review the standard and revise/reissue the Title V permit as appropriate.

40 CFR Part 68 - Risk Management Planning: Accidental Release Prevention (Section 112r)
This facility is not presently subject to the requirements of this part. An appropriate condition will be included on the permit to ensure compliance with the requirements of this part if the facility were to become subject.

40 CFR Part 82 - Protection of Stratospheric Ozone

This facility is in compliance with the requirements of this part. An appropriate condition will be included on the permit to ensure compliance with these requirements.

THE FOLLOWING WILL BE INCLUDED ON THE TITLE V PERMIT:

FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS

1. All equipment facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [July 31, 1991 PSD Permit, District Rule 207]

2. RMC Lonestar shall operate and maintain fabric dust collectors to control particulate emissions from the following areas of the facility [July 31, 1991 PSD Permit]:

- a) Sand Bin 04-036
- b) Iron Ore Bin 04-038
- c) Raw Material Transfer 04-005
- d) Roller Mill Surge Bin 05-100
- e) Coal Conveyor Transfer 06-321
- f) Kiln Feed & Homo Silos 07-481
- g) Kiln Feed System 07-423
- h) Clinker Handling 07-573
- i) Coal Bin 07-701
- j) Coal Processing 07-723
- k) Clinker & Gypsum Bins & Elevators 08-824
- l) Finish Mill Airslides & Elevators 08-870
- m) Air Separator 08-865
- n) Truck Load Out (68, 69, 70, 71)

3. RMC Lonestar shall operate and maintain pressure gauges on each compartment of each dust collector required under Condition 2 above. [July 31, 1991 PSD Permit]

4. RMC Lonestar shall utilize and maintain an earthen berm and biological wind break for the active and inactive coal piles and a dust suppression system for the coal receiving, handling and storage areas. [July 31, 1991 PSD Permit and District Rule 207]

5. RMC Lonestar shall utilize and maintain an alkaline slurry injection system (ASIS) for control of SO₂ emissions from the kiln. The slurry produced shall consist of at least 12 percent solids and shall consist of slaked lime or equivalent material which has been approved by the District. The ASIS shall be operated to the extent possible to maintain SO₂ emissions below 102.3 pounds per hour: [July 31, 1991 PSD Permit and District Rule 207]

a) at all times the raw mill is not operating except during kiln start-up, on which occasions the ASIS shall be operated as soon as the kiln feed rate reaches 100 tons per hour; and

b) at all times the SO₂ mass emission rate equals or exceeds 102.3 pounds sulfur dioxide per hour from the main stack, including during start-up.

6. RMC Lonestar shall consume no more than 394 tons per day of coal on a daily maximum average and no more than 357 tons per day of coal on an

annual average basis. [July 31, 1991 PSD Permit]

7. The sulfur content of the coal combusted shall not exceed 1.4% by weight on a weekly average or 1.25% by weight on an annual average. [July 31, 1991 PSD Permit And Rule 207]

8. Clinker production at the Davenport Cement Plant shall be limited to 7920 hours per year. [July 31, 1991 PSD Permit]

9. RMC Lonestar shall not discharge or cause the discharge into the atmosphere from the main electrostatic precipitator stack: [July 31, 1991 PSD Permit, District Rule 207, And 40 CFR Part 60, Subpart F]

a) particulate matter in excess of 0.30 pounds per ton of feed to the kiln, as measured using 40 CFR Part 60, Appendix A Reference Method 5;

b) particulate matter in excess of 40 lb/hr;

c) visible emissions which is as dark or darker than Ringelmann 1 or equivalent 20% opacity;

d) oxides of nitrogen (measured as NO₂) in excess of 250 pounds per hour on a running 24 hour average;

e) oxides of nitrogen (measured as NO₂) in excess of 350 pounds per hour on a running 2 hour average;

f) sulfur dioxide in excess of 250 lbs/hr on a running 24 hour average; and

g) sulfur dioxide in excess of 300 lbs/hr on a running 2 hour average.

10. RMC Lonestar shall limit their shale usage to the lower sulfur content "tan" shale at all times the sulfur dioxide emissions from the main stack exceed 91.9 pounds per hour. Tan shale shall be defined as that identified by RMC Lonestar to have an average SO₃ content of 0.37 percent with a standard deviation of 0.67 percent. [District Rule 207]

11. No air contaminant shall be discharged into the atmosphere from any quarry operations prior to the raw material storage areas for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity. [District Rule 400]

12. Visible emissions from any process equipment, dust collector, or storage area, except the main stack and those specified in Condition 11 shall not exceed the following criteria: [July 31, 1991 PSD Permit, District Rule 400, And 40 CFR Part 60, Subpart F]

a) 10 percent opacity or greater, as determined by averaging 24 consecutive observations, made at 15 second intervals; and

b) 20 percent opacity or greater for any period or periods aggregating more than 3 minutes in any one hour.

13. Materials collected in the baghouse dust collectors must be discharged only into closed containers. [District Rule 207]

14. The coal and raw material storage piles shall be shaped so as to minimize exposure to the wind, and to minimize dust entrainment. [District Rule 207]

15. Particulate matter from the coal mill baghouse dust collector shall not exceed 0.031 grains per standard dry cubic foot. [40 CFR Part 60, Subpart Y]

16. Particulate matter shall not exceed 0.15 grains per standard dry cubic foot in any exhaust stream. [District Rule 403]

17. Particulate matter from any exhaust stream shall not exceed the lesser of 40 pounds per hour or the pound per hour limit established by the following mass emission limit equation [District Rule 403]:

$$E = 4.10 P^{0.67}$$

where:

E = rate of emission in pounds per hour

P = process weight rate in tons per hour

18. The sulfur content on any fuel oil used at the facility shall not exceed 0.5 percent by weight. [District Rule 412]

19. The sulfur content on any gaseous fuel used at the facility shall not contain sulfur compounds, calculated as hydrogen sulfide at standard conditions, in excess of 50 grains per 100 cubic feet. [District Rule 412]

20. RMC Lonestar's gasoline storage tanks shall be equipped with permanent submerged fill pipes. [District Rule 418]

21. RMC Lonestar shall prevent the emission of 95 percent by weight of the gasoline vapors displaced during the filling of the storage tanks at the gasoline dispensing facility by the use of Phase I Vapor Recovery. [District Rule 418]

22. RMC Lonestar shall limit emissions of volatile organic compounds from the use of architectural coatings pursuant to the requirements of District Rule 426. [District Rule 426]

23. RMC Lonestar shall limit emissions of volatile organic compounds during solvent cleaning and degreasing operations pursuant to the requirements of District Rule 433. [District Rule 433]

24. Should the facility, as defined in 40 CFR §68.3 become subject to Part 68, then RMC Lonestar shall submit a risk management plan (RMP) by the date specified in 40 CFR §68.10. Once subject to Part 68, RMC Lonestar shall certify compliance with these requirements as part of the annual compliance certification required by 40 CFR Part 70 and this permit. [40 CFR Part 68]

25. RMC Lonestar shall comply with the requirements of 40 CFR Part 82 - Protection of Stratospheric Ozone. [40 CFR Part 82]

TESTING REQUIREMENTS AND PROCEDURES

26. RMC Lonestar shall conduct testing weekly, in accordance with the current ASTM Standard Method D3177 or equivalent method approved by EPA to verify compliance with Condition 7. [July 31, 1991 PSD Permit]

27. RMC Lonestar shall conduct testing semi-annually and at other times as specified by EPA, in accordance with the methodology contained in EPA Methods 1-5 to verify compliance with the emission limits contained in Condition 9(a) and (b), and to verify the accuracy of the continuous

in-stack monitoring instrumentation. The District and EPA shall be notified at least 30 days in advance of the testing to allow an observer to be present and the report of results shall be transmitted to the District as soon as they are available. Based on the development of an emissions history, the District may allow a reduction in the frequency of emission testing to one test per year. [July 31, 1991 PSD Permit and District Rule 207]

28. RMC Lonestar shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all non-point sources. This testing will be the basis for determining compliance with Conditions 11 and 12.

If no emissions are observed utilizing Method 22, the non-point source shall be deemed to be in compliance with condition 11 and 12.

If emissions are observed from any non-point sources and that non-point source is not operating under breakdown condition as defined in and allowed for in District Rule 214, RMC Lonestar shall conduct testing on that non-point source within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with Condition 12(a) and the methodology contained in EPA Method 9 and the averaging/aggregating period contained in District Rule 400 to verify compliance with Conditions 11 and 12(b) for that non-point source. [District Rule 218]

29. RMC Lonestar shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all point sources. This testing will be the basis for determining compliance with Conditions 11, 12, 15, 16 and 17.

If no emissions are observed utilizing Method 22, the point source shall be deemed to be in compliance with Conditions 11, 12, 15, 16 and 17.

If emissions are observed from any point source and that point source is not operating under breakdown condition as defined in and allowed for in District Rule 214, RMC Lonestar shall conduct testing on that point source [District Rule 218]:

1) within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with Condition 12(a) and with the methodology contained in EPA Method 9 and the averaging/aggregating period contained in District Rule 400 to verify compliance with Conditions 11 and 12(b); and

2) within 30 days of the Method 22 testing in accordance with EPA Method 5 or 5D to verify compliance with the requirements of Conditions 15, 16, and 17.

30. No testing is specified for the (Rule 412) fuel sulfur content limit in Condition 18 as compliance with this condition will be verified by the fuel sulfur content reports to be provided by the fuel supplier. If testing is conducted for Condition 18, RMC Lonestar should conduct testing in accordance with ASTM D1552-83, ASTM D1266-87 or ASTM D2622-87. [District Rule 218]

31. No testing is specified for the sulfur content of gaseous fuels as long as the only gaseous fuel fired is pipeline quality natural gas. If the facility fires other gaseous fuels, RMC Lonestar shall maintain fuel sulfur content reports to be provided by the fuel supplier or shall conduct testing of all gaseous fuel deliveries in accordance with ASTM D 1072-80, ASTM D 3031-81, ASTM D 3246-81 or SCAQMD Method 307-91 to verify compliance

with Condition 19.

MONITORING AND RECORD KEEPING REQUIREMENTS

32. RMC Lonestar shall maintain on file the following information for each day of operation and shall make the data available to the District upon request: [District Rule 207]

- a) maximum 24 hour average NOx emission rate, pounds NOx per hour;
- b) maximum 2 hour average NOx emission rate, pounds NOx per hour, occurring during the 24 hour period of 8:00am to 8:00am;
- c) maximum 24 hour average SO2 emission rate, pounds SO2 per hour;
- d) maximum 2 hour average SO2 emission rate, pounds SO2 per hour, occurring during the 24 hour period of 8:00am to 8:00am;
- e) daily average SO3 percent in kiln feed;
- f) average daily kiln feed rate, tons per hour;
- g) hours of daily kiln operation, hours;
- h) hours of daily raw mill operation, hour; and
- i) hours of daily Alkaline Slurry Injection System operation.

33. RMC Lonestar shall monitor and record the flow rate in gallons per minute, of slurry and water used in the ASIS on a continuous basis, and shall determine the percent solids in the slurry on a daily basis to verify compliance with Condition 5 and shall make these records available to the District upon request. [District Rule 207]

34. RMC Lonestar shall maintain permanent records of the quantity of coal combusted to verify compliance with Condition 6. These records shall be made available, upon request, to the District, the ARB, and the EPA. [July 31, 1991 PSD Permit]

35. RMC Lonestar shall maintain permanent records of the sulfur content of the coal combusted to verify compliance with the requirements of Condition 7. These records and the testing required by Condition 26 shall be made available, upon request, to the District, the ARB, and the EPA. [July 31, 1991 PSD Permit]

36. RMC Lonestar shall maintain and operate the following continuous emissions monitoring (CEM) systems in the main stack: [July 31, 1991 PSD Permit and District Rule 207]

- a) A system to measure SO2 and NOx concentrations. The system shall meet EPA monitoring performance specifications (40 CFR 60.13 and 40 CFR Part 60 Appendix B, Performance Specifications 2, 3, and 4).
- b) A system to measure volumetric flow rate. The system shall meet EPA performance specifications (40 CFR Part 52, Appendix E).
- c) A transmissometer system for continuous measurement of opacity. The system shall meet EPA monitoring performance specifications (40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1).

37. RMC Lonestar shall maintain a system for monitoring compliance with the emission limits specified in Condition 9© through (f), using the data from the in-stack monitoring instrumentation. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [July 31, 1991 PSD and District Rule 207]

38. RMC Lonestar shall maintain records showing the quantity of all gasoline delivered to the gasoline storage tanks. [District Rule 418]

39. RMC Lonestar shall maintain a monthly log of the facility-wide total volume of make-up solvent used, and waste solvent disposed of or recycled, for all cleaning devices using volatile organic compounds for solvent cleaning and degreasing. [District Rule 433]

The record keeping provisions of this condition do not apply to remote reservoir cold cleaners which are serviced by an independent contractor. For such remote cold cleaners, evidence of service shall be maintained.

40. As applicable RMC Lonestar shall maintain the following general records of required monitoring information [July 31, 1991 PSD Permit and District Rule 218]:

- a) the date and time of sampling or measurements;
- b) the date(s) analyses were performed;
- c) the company or entity that performed the analyses;
- d) the analytical techniques or methods used;
- e) the results of such analyses;
- f) the operating conditions existing at the time of sampling or measurement; and
- g) the records of quality assurance for continuous monitoring systems (including, but not limited to quality control activities, audits, and calibration drift checks) and source testing methods.

41. RMC Lonestar shall maintain records on the occurrence and duration of any startup or shutdown resulting from a malfunction in the operation of the control equipment under this permit. [District Rule 218]

42. RMC Lonestar shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring, sample collection, measurement, report, and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [District Rule 218]

REPORTING REQUIREMENTS

43. RMC Lonestar shall notify the EPA Regional Administrator by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable mass emissions limit stated in this permit. In addition, the EPA Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [July 31, 1991 PSD Permit]

44. RMC Lonestar shall orally notify the District as soon as it learns that the emissions from the main stack equal or exceed the emission limits set forth in Condition 9. Such notification shall be followed within 5 days follow the conclusion of the event by a written report specifying the duration of the event, maximum and average emission levels during the event, and the cause and remedy. [District Rule 207]

45. RMC Lonestar shall submit a written report of all excess emissions to EPA (Attn: A-3-3) for every calendar quarter. The report shall include the following: [July 31, 1991 PSD Permit]

a) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

b) Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the kiln system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted shall also be reported.

c) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs and adjustments.

d) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

46. RMC Lonestar shall report all breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour of the occurrence, this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if RMC Lonestar demonstrates to the APCO's satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO with 5 days after the occurrence has been corrected. This report shall include at a minimum [District Rule 214]:

a) a statement that the condition or failure has been corrected and the date of correction; and

b) a description of the reasons for the occurrence; and

c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and

d) an estimate of the emissions caused by the condition or failure.

47. RMC Lonestar shall submit semiannual monitoring reports to the District, in a District approved format, no later than August 15 for the period of January 1 through June 30 and no later than February 15 for the period of July 1 through December 31. [District Rule 218]

These monitoring reports shall include at a minimum:

a) the time intervals, date and magnitude of excess emissions, nature and

cause of the excess (if known), corrective actions and preventative measures adopted; and

b) the averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant in question; and

c) all information pertaining to any monitoring as required by the permit; and

d) a negative declaration specifying when no excess emissions occurred.

48. RMC Lonestar shall submit an annual compliance certification report to the District and U.S. EPA, in a District approved format, no later than February 15 for the period of January 1 through December 31 of the preceding year. [District Rule 218]

This report shall include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report and shall include at a minimum:

a) identification of each term or condition of the permit that is the basis of the certification; and

b) the compliance status; and

c) whether compliance was continuous or intermittent; and

d) the method(s) used for determining the compliance status of the source, currently and over the reporting period.

GENERAL CONDITIONS

49. RMC Lonestar shall comply with all conditions of this federal operating permit. Any noncompliance with a permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [District Rule 218]

50. In an enforcement action, the fact that RMC Lonestar would have to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit is not a defense. [District Rule 218]

51. This permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by the District. The filing of a request by RMC Lonestar for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 218]

52. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. [District Rule 218]

53. RMC Lonestar shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, RMC Lonestar shall also furnish to the District copies of records required to

be retained by this permit. [District Rule 218]

54. For applicable requirements that will become effective during the permit term, RMC Lonestar shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. [District Rule 218]

55. Any document submitted to the District pursuant to this permit shall contain certification by the responsible official of truth, accuracy and completeness. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. RMC Lonestar shall promptly, upon discovery, report to the District a material error or omission in these records, reports, plans, or other documents. [District Rule 218]

56. RMC Lonestar shall report any violation of any requirement contained in this permit to the District within 96 hours after such occurrence. The violation report shall include the time intervals, date and magnitude of excess emissions; nature and cause of the excess (if known), corrective actions and preventive measures adopted. [District Rule 218]

57. Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, record keeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with. [District Rule 218]

58. For this federal operating permit to remain valid through the permit term of five years from the date of issuance, RMC Lonestar shall pay an annual emission fee based upon the requirements of District Rule 308. [District Rule 218]

59. RMC Lonestar shall have available at the facility at all times a copy of this federal operating permit. [District Rule 218]

60. For protection from enforcement action based upon an emergency, as defined in District Rule 218, the responsible official for RMC Lonestar shall submit to the District relevant evidence which demonstrates [District Rule 218]:

- a) an emergency occurred; and
 - b) that RMC Lonestar can identify the cause(s) of the emergency; and
 - c) that the facility was being properly operated at the time of the emergency; and
 - d) that all steps were taken to minimize the emissions resulting from the emergency; and
 - e) within two working days of the emergency event, RMC Lonestar provided the District with a description of the emergency and any mitigating or corrective actions taken.
61. Upon presentation of credentials, RMC Lonestar shall allow the District, the ARB, the EPA, or an authorized representative, to perform the following [District Rule 218]:
- a) enter upon the premises where the federal operating permit source is located or in which any records are required to be kept under the terms and conditions of this federal operating permit;

b) to have access to and copy any records required to be kept under the terms and conditions of this federal operating permit;

c) to inspect any equipment, operation, or process described or required in this federal operating permit; and,

d) to sample emissions from the source.
